WHAT IS CLAIMED IS:

1. An image processing apparatus, comprising:

image reading means for reading analog color image data of a color image, separates the analog color image data into red image data, green image data, and blue image data, and converts the red image data into digital red image data, the green image data into digital green image data, and the blue image data into digital blue image data; and

processing means for subjecting the digital red image data, the digital green image data, and the digital blue image data to digital processing, wherein the processing means includes

color identifying means for determining, for each of the digital red image data, the digital green image data, and the digital blue image data, whether there exists black data, and generates density data from the black data when black data exists, and generates color data from data other than the black data;

multinarizing means for converting the color data for each of the digital red image data, the digital green image data, and the digital blue image data into multinary data;

magnification varying means for varying the density data and the color data multinarized, using a cubic function convolution method;

binarizing means for binarizing the color data varied, based on a predetermined threshold; and

image printing means for printing the color data binarized and the density data varied, onto a recording medium.

2. The image processing apparatus according to claim 1, wherein the multinarizing unit generates the multinary data by setting "0" where the black data exists and by setting an integer equal to or greater than "1" if the data is other than the black data.

3. The image processing apparatus according to claim 1, wherein the binarizing unit binarizes the color data varied by setting to black if the color data varied is "0" and by setting to any color other than black if the color data is not "0".

4. An image processing apparatus, comprising:

an image reader that reads analog color image data of a color image, separates the analog color image data into red image data, green image data, and blue image data, and converts the red image data into digital red image data, the green image data into digital green image data, and the blue image data into digital blue image data;

an image processor that subjects the digital red image data, the digital green image data, and the digital blue image data to digital processing, wherein the image processor includes

a separating unit that determines, for each of the digital red image data, the digital green image data, and the digital blue image data, whether there exists black data, and generates density data from the black data when black data exists, and generates color data from data other than the black data; and

a two-color image processing unit that includes

a multinarizing unit that converts the color data for each of the digital red image data, the digital green image data, and the digital blue image data into multinary data;

a magnification varying unit that varies the density data and the color data multinarized, using a cubic function convolution method; and

a binarizing unit that binarizes the color data varied, based on a predetermined threshold; and

an image forming unit that prints the color data binarized and the density data varied, onto a recording medium.

5. The image processing apparatus according to claim 4, wherein the multinarizing unit generates the multinary data by setting "0" where the black data exists and by setting an integer equal to or greater than "1" if the data is other than the black data.

6. The image processing apparatus according to claim 4, wherein the binarizing unit binarizes the color data varied by setting to black if the color data varied is "0" and by setting to any color other than black if the color data is not "0".

7. The image processing apparatus according to claim 4, wherein the black and specific color separating unit further includes

a register that previously stores correction values for detecting any color other than black, threshold values, threshold values of

luminance for determining whether the data is white or black, and information for process modes;

a correction value selector that selects any of the values stored in the register according to a process mode and level;

an input selector that selects two image data required for the processing from the image data for three colors based on the data for the stored modes; and

a color detector that detects any color other than black from the selected two image data.

8. The image processing apparatus according to claim 7, wherein the black and specific color separating unit further includes

a luminance calculating unit that receives the image data for three colors and calculates a luminance value of each of the image data; and

a color determining unit that reads a threshold value of the luminance from the register, and compares the read threshold value with a calculated value to determine each pixel as black, white, or any other color, and outputs image signals.

9. The image processing apparatus according to claim 8, wherein the black and specific color separating unit further includes

a matrix generating unit that receives the output image signals, accumulates signals for five lines to generate a 5×5 matrix, and generates linear line patterns from the matrix;

a pattern matching unit that compares each of the linear line patterns with a preset reference pattern, and determines if each of the linear line patterns matches the reference pattern; and

a color shift correcting unit that determines, if the pattern in the linear line patterns matches the reference pattern, a target pixel included in the linear line pattern as color shift, changes a color of the target pixel to another color, and outputs the image data in which color shift has been corrected as two-color data.

10. The image processing apparatus according to claim 9, wherein the black and specific color separating unit further includes a timing adjusting unit that outputs luminance data at a timing at which the color shift correcting unit outputs the two-color data.

11. An image processing method, comprising:

reading analog color image data of a color image, separates the analog color image data into red image data, green image data, and blue image data, and converting the red image data into digital red image data, the green image data into digital green image data, and the blue image data into digital blue image data;

determining, for each of the digital red image data, the digital green image data, and the digital blue image data, whether there exists black data, and generating density data from the black data when black data exists, and generating color data from data other than the black data;

converting the color data for each of the digital red image data, the digital green image data, and the digital blue image data into multinary data;

varying the density data and the color data multinarized, using a cubic function convolution method;

binarizing the color data varied, based on a predetermined threshold; and

printing the color data binarized and the density data varied, onto a recording medium.

12. The method according to claim 11, wherein the converting includes generating the multinary data by setting "0" where the black data exists and by setting an integer equal to or greater than "1" if the data is other than the black data.

13. The method according to claim 11, wherein the binarizing includes setting to black if the varied color data is "0" and by setting to any color other than black if the color data is not "0".